

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number  
**WO 2005/072270 A3**

- (51) International Patent Classification<sup>7</sup>: A61K 38/00, C12N 15/00, 15/06, 15/07, G01N 33/20
- (21) International Application Number: PCT/US2005/002023
- (22) International Filing Date: 21 January 2005 (21.01.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/538,718 23 January 2004 (23.01.2004) US
- (71) Applicants (for all designated States except US): THE ADMINISTRATORS OF THE TULANE EDUCATIONAL FUND [US/US]; 1430 Tulane Avenue, New Orleans, LA 70112 (US). XAVIER UNIVERSITY OF LOUISIANA [US/US]; 1 Drexel Drive, New Orleans, LA 70125-1098 (US). INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM) [FR/FR]; 101, rue de Tolbiac, F-75654 Paris 13 (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KLASSEN, Bryan [US/US]; 2100 Sawmill Road, New Orleans, LA 70123-5902 (US). VERRAUST, Pierre, J. [FR/FR]; Hôpital Tenon (FR). ALLEN, Patricia [US/US]; 2401 Comet Street, New Orleans, LA 70131 (US). HAMMOND, Timothy [US/US]; 1418 Bordeaux Street, New Orleans, LA 70115 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 29 December 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS AND COMPOSITIONS FOR TREATING CANCER

(57) Abstract: Pharmaceutical compositions, kits and methods useful for the treatment of cancer include a composition containing a modified metallothionein (MT) amino acid sequence or fragment thereof that binds the megalin receptor less avidly than naturally-occurring metallothionein. The modified metallothionein can be in a conjugate with multiple molecules of a therapeutic divalent metal ion. Embodiments of the modified metallothionein complex can have a negative or neutral charge or a size greater than 70kD. Such compositions are useful also in methods for treating heavy metal poisoning and inhibiting renal uptake of therapeutic divalent metal ions.

WO 2005/072270 A3